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T R E A T I S E

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TRANSPOSITION

OF

M U S I C,

WITH

A NEW-INVENTED CIRCULAR
SLIDING SCALE;

By which any Person unacquainted with Music, may learn to
transpose into all the various Keys in a few Minutes.

L O N D O N :

Printed for the AUTHOR;

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T R A N S I T

OF

THE

M U S I C

THE

SLIDING SCALE

THE

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Printed for the Author by
Messrs. J. & W. Smith, Stationers, New-Street,
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P R E F A C E.

TRANSPOSITION, being a fundamental Part of Music, is absolutely necessary to be understood by every one who wishes to arrive at any degree of proficiency in that polite and fashionable accomplishment. But, whether from the negligence of the generality of masters, or from an unhappy manner of communicating, so it is, that we find many people who perform very decently on various instruments, greatly at a loss in this most material and essential part of knowledge; or what little they do know, merely mechanical.

To one or other of those causes, we may also attribute the unprofitable perusal of all that has been said in the common instruction books on that head; which are either so deficient with respect to the principles, or so mysteriously wrapped up, that they serve more to puzzle and perplex, than to throw any additional light on the subject.

To simplify and render this matter clear, the author of this little Treatise has endeavoured

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voured to shew, in a plain, easy, and familiar manner, the principles on which it is founded ; from which he has deduced such rules, as he flatters himself, cannot fail of being perfectly understood, even by a child of nine or ten years of age.

The CIRCULAR SLIDING SCALE is admired and highly approved of, by those of the first professional merit in this kingdom; being allowed to convey more instruction in one lesson, than can be done in fifty, by any other method; as it has this peculiar property, that whilst it transposes mechanically, it at the same time carries with it the clearest demonstration of the principles on which it is founded.

A TREA-

T R E A T I S E

ON THE

T R A N S P O S I T I O N

O F

M U S I C.

BEFORE I proceed to treat on Transposition, and the rules by which it is performed, it is first necessary that I should say something of the two established principles, or theorems in Music, on which it is naturally founded. And first,

Of the Natural Scale, or Gamut.

There are but seven notes in the whole Scale of Music, which are distinguished by the names of the seven following letters, viz. G, A, B, C, D, E, F; each of those notes differing in distance of sound, one from another, one tone, or two half or semi-tones, except F and C; which differ only in sound from their preceding notes, one half, or one semi-tone, and admits of no subdivision: And by the various situations in which these seven notes may be placed, is produced all that variety of melody which ever has, or ever can be composed; every other note, higher or lower, ad infinitum, being only a repetition

of one or other of these seven of the same name, or what is called a single, double, or triple eighth or octave, &c.

But that I may be clearly understood by young beginners, and as a harpsicord, or any other keyed instrument, will best explain my meaning, let the keys of such instrument be represented as follows, viz.

G A B C D E F G A B C D E F G A B C D E F.

Now here you may observe, that although the above line of letters, or keys, consist of twenty-one in number, yet are they but a repetition of the first seven notes, both in name and sound : for although each note rises one tone, or two semi-tones above, or higher than its preceding one, (from the first G on the left, to the last F on the right, except the F's and C's, which, as I before observed, differ only half a tone) yet the octaves, with respect to each other, are all the same. For strike any two notes of the same name upon a harpsicord, at the most extreme distance, viz. two G's, two D's, or any other you please ; nay, strike the whole of one name together, and they will sound as one note. We have only therefore to seek in the first seven notes, for a reason on which any theorem is founded, which having once found, will hold good for any number whatever.

It may here perhaps be asked, why F and C, should each of them differ in distance of sound from their respective preceding notes but half a tone, and each of the others one whole, or two semi-tones.

Much might be said to prove, that these two half tones really existed in nature, whilst arguments not less forcible might be advanced in support of a contrary opinion.

For

For instance, to prove the first : Let any person who has a fine ear (although totally unacquainted with a single note in Music) begin at any given pitch, calling it G, and sounding ~~all the notes of the scale~~ *the Octave* upwards, by their respective names, and they will naturally sound F and C but half tones.

Yet this argument, however strong, will lose much of its force when opposed to the prejudice of custom. For, before sounds could be formed into any regular system, or any general rules laid down for composition or harmony, it was first necessary to determine the extent of the scale, or number of notes, and also their distance of sound one from another. In these two material points, it is reasonable to suppose, that the person who first attempted it, was entirely guided by his own ear and opinion ; which having once determined and laid down as a fixed principle, of course every other rule must necessarily agree and correspond with it. Hence, all his future compositions, however enriched by variety, would still have a something in them peculiar to those principles and rules by which they were regulated, and which, spreading by degrees, would at length become the general taste, not only in that particular country where the founder of such a system happened to reside, but also in every other country where they adopted the same system.

Our ears being therefore familiarized to the modulation of such a scale of sounds, from the early age of childhood, it is no wonder if we mistake custom for nature, as any other would now seem harsh and disagreeable to our ear.

What still strengthens this conjecture, namely, that the determining on those two afore-mentioned points was merely arbitrary, is, that our present or diatonic scale, although very general, was, however not universal ; for the antient Scots had no more

than five notes in their scale or gamut, and yet their compositions were very melodious. And the Greeks, I am told, whose Music is far from deserving the epithet of barbarous, even to this very day, have a very different scale from ours.

Whether therefore, those two half tones, viz. F and C, are, or are not in nature, I shall leave to those who are better acquainted with the philosophy of sounds to determine; it being inconsistent with that brevity and simplicity with which I mean to treat this subject, to discuss a point which will admit of so much abstruse reasoning; and, after all, prove but very unsatisfactory to the generality of my readers: nor is it at all material to my present purpose, since from whatever cause it originates, that which we now allow the most perfect human ear, distinguish them in that manner. I come next to speak

Of the two Natural Keys.

The second leading principle, and which seems necessarily to depend on the first is, that there are but two keys in Music, viz. C, the natural sharp key, and A, the natural flat one.

The sharp key is generally made choice of to express the gay and lively passions; and the flat one, those of the soft and plaintive.

A key is not therefore said to be flat, or sharp, from either of those characters being placed at the beginning of any tune, or piece of Music, the aforementioned natural keys of C and A having neither of them; and as it likewise sometimes happens in transposing a piece from one sharp key to another, that it is performed by flats, and in transposing from one flat key to another, by sharps.

But a key is said to be flat or sharp, according to the situation of the key-note, with respect to the flat or sharp thirds; a sharp third consisting of two whole,

whole, or four semi-tones, and the flat one of one tone and a half, or three semi-tones ; the uppermost note of a flat third, in either of the two natural keys, being always F or C.

The key, or which might not improperly be called the master-note, is that on which a piece of Music generally ends in the treble, and always in the bass. Not that the piece is purposely closed on that note, merely for the sake of agreeing with any general or particular rule in composition ; but seems necessarily to happen from some law in nature, or custom, similar to that by which we naturally sound F and C but half tones : for let a person sing a strain extemporary, and he will not only continue throughout the piece in the same key he began upon, but, like the needle in the mariner's compass, which, though whirled round with any greater or lesser degree of velocity, will settle at last to the north-point ; so he, after running through all the variety of sounds which the key will admit of, will naturally be drawn to close upon C or A at last, according as it happened to be the sharp or flat key on which he first struck off : and indeed he cannot do otherwise, without leaving the strain unfinished, and, of course, the ear ungratified..

When I say they *cannot* do otherwise, I would be understood to mean those only who are unacquainted with Music and the rules of composition ; for it is no uncommon thing to find in the works of our best authors, the key, even in the middle of a part, gradually changed, without the least interval or pause in the performance. This, when done judiciously, not only shews the skill of the author, but has a very pretty effect.

There is, indeed, a peculiarity in the situation of the two natural key-notes, with respect to the flat and sharp thirds, from which they seem to derive

this governing principle ; namely, the closing of every piece upon one or other of them, as no other note in the scale will divide the seven in the same manner, without flats or sharps being prefixed to reduce them to the same situation.

To exemplify this, I shall here place them both in their respective situations.

The natural sharp key of C stands thus :

F G A B C D E

And the natural key of A, thus :

D E F G A B C

Here you may observe, that either of those seven notes, in the manner they are placed, will divide exactly into three thirds, viz. the uppermost line, or sharp key, consisting of two sharp thirds and a flat one ; and the lower line, or flat key, of two flat thirds and a sharp one. The sharp key having its flat third in the middle, and the flat key its sharp third ; the natural key notes of C, and A, being always the uppermost note of the middle third ; and the uppermost note, or notes, in the flat thirds, in the two fore-mentioned natural keys, will be one, or both of the two natural half tones, viz. the flat third in the sharp key, will have C, which is also the key note ; and the flat thirds in the flat key, will have F for the one, and C for the other. Let us now see how the said two key notes, in the manner they are placed above, agrees with those observations.— And first of C, the natural sharp key.

There you see from F to A is a sharp third, viz. two whole or four semi-tones ; from A to C is a flat third, viz. one tone and a half or three semi-tones, and from C to E is a sharp third, or four semi-tones. So that the sharp key of C has a sharp third above it, another below, and the flat third in the middle ; the uppermost note of which, is the key note itself, and one of the two natural half notes.

Let

Let us now, in like manner, examine A, the natural flat key, viz. from D to F, is a flat third, from F to A, the key-note, is a sharp third, and from A to C a flat third; F, one of the natural half-tones, being the uppermost note of the flat third below, and C, the other natural half-tone, the uppermost note of the other flat third above the key-note, and the key-note itself the uppermost note of the middle third.

Now let us prove the truth of another observation which I made, namely, that no other note will divide the seven in the same manner. For example; let us suppose G to be the key-note, then it would stand thus,

C D E F G A B

Here you see the middle third, of which G the key-note is the uppermost, has a sharp third above, and another below. So far it is right; and the flat third in the middle, consists also of a tone and a half, or three semi-tones: but then the key, or uppermost note in the said third, viz. G, should have been but half a tone distant from its preceding note F; whereas it is a whole tone, and the half-tone lies between E and F. So that substitute what note you please for C, in the sharp key, or A in the flat one, you will find them to differ in one or more particulars, from the natural situation of C and A. You will likewise observe, that a sharp key consists of eleven semi-tones, and the flat key of but ten; consequently, a piece of Music in a sharp key, cannot be transposed into a flat one, nor a flat key into a sharp one, without totally losing the intervals of the original.

Having now, I hope, fully explained the two natural keys, and their peculiar situation with respect to the two natural half-tones, or in other words, to the flat and sharp thirds, I come now to treat

Of TRANSPOSITION.

It often becomes necessary to transpose a piece of Music from one key to another, in order to accom-

modate the person who is to accompany you with the voice, or another instrument of less extensive compass than that which you perform on.

Suppose, for instance, that you were to play a song tune in the natural sharp key of C, and requested another to accompany you with the voice. The person who is to perform the vocal part (upon trial) finds that the piece runs two notes above the compass of his voice, and therefore desires you to play it two notes lower. Here the key-note becomes A, and consequently every note in the piece must be two notes lower. Were you, therefore, to play, or stop, all the notes natural as before it was transposed, the distance of tone between one note and another, which must still be preserved the same as in the original, would be totally changed, and of course the air of the piece changed also. Had every note in the Scale, or Gamut, been an equal distance of sound one from another, viz. a whole tone, then there would have been no distinction of flat or sharp keys; for as no one note could have had any thing peculiar to its situation more than another, into whatever key, therefore, you transposed your piece, it would have still been a natural one.

Hence it is evident, that the flat and sharps, made use of in Transposition, necessarily arises from the two natural half tones of F and C.

Indeed, in this particular case, provided you were to play both natural, it would be transposed from a sharp key to a flat one, A, being the natural flat key; which, as I have before observed, cannot be done, the sharp key consisting of eleven semi-tones, and the flat one of but ten. But this will best appear, by placing the key of A, into which it is transposed, below the natural key of C in which it first stood.

Natural sharp key,

F G A B C D E

Transposed thus,

D E F G A B C

Hence

Hence it appears evident, that the sharp key consists of half a tone more than the flat one; for the uppermost, or sharp key, being but half a tone from E, the last note on the right, to F, the first note on the left, consequently it wants only half a tone of an octave; whereas the flat key, is a full tone, or two semi-tones from C, the last note on the right, to D, the first note on the left; and, therefore, as the distance between the last note on the right, and first on the left in either keys, cannot be reckoned in counting the number of tones, or semi-tones, in the seven notes of the Gamut, as that would include the octave, it must be plain, that the one contains half a tone more than the other.

When, therefore, I told you that a piece of music in a sharp key, could not be transposed into a flat one, or a piece in a flat key to a sharp one, I would be understood to mean, that no piece which has a sharp third above its key-note, could be transposed into any other key which has a flat third above the said key-note, as in the above example of the natural sharp key of C, with a sharp third, and the natural flat key of A with a flat third. But the natural key-note of A, may, notwithstanding, be converted into a sharp key, by making the two flat thirds sharp ones; and the middle third, which is now a sharp one, into a flat third; and contrariwise, the sharp key-note of C, may be made the key-note of a flat third.

If an instrument would admit of being tuned so many notes higher or lower, as you wanted to transpose your piece, without, in the first case, breaking your strings, or in the last destroying that soundness of tone which is produced by having it at concert-pitch; then, indeed, the end would be effectually answered at once, and you might still play in the natural key; but this would not only be very tedious, but take up a great deal of time, especially on the harpsicord,

ficord, as you would have it to tune afresh every time you changed your key.

Nothing, therefore, can be more absurd, or sooner betrays the ignorance of a musical person, than to ascribe properties to any particular key, which are common to all of the same kind; and yet nothing is more frequent, even amongst very decent performers. I have heard a Gentleman, who played uncommonly fluent on the violin, and stopped perfectly true in all the various keys, say, he was very fond of playing in five sharps, which is the key of B with a sharp third, as of all others he thought it the most cheerful.

Now the chearfulness, or sprightliness of any air or piece of Music, depends chiefly on the taste of the composer; and although a sharp key is the most suitable to a brisk or lively air, yet the piece cannot be said to derive any additional chearfulness from any one sharp key in particular more than another; since transposing from one sharp key to another, as I have shewed before, is in reality, no more than changing the pitch so many notes higher or lower.—To prove this, take a piece of music in the sharp key of B, which has five sharps, and transpose it into the natural sharp key of C. Then let two persons take each a violin, and let the one be tuned half a tone lower than the other, which is the distance of sound between B, the key in which it originally stood, and C, the key into which it is transposed.

Let then the person who has the highest tuned instrument, play the said piece in B with five sharps, and the other in the natural key of C, and they will both be in perfect unison; and the same will hold good with any other two keys, whether flat or sharp, which is transposed by sharps; that is, any two in a sharp key, or any two in a flat key, respect being had to the pitch of the two instruments; which must always differ one from the other the same number of tones, or
semi.

semi-tones, as the one key-note is distant from the other. Perhaps I should not have asserted too much, if I had said, that it will hold good in all cases, even where the one is transposed by sharps and the other by flats; provided, as I before observed, that they both belong to a sharp or flat key. My reasons for which I shall reserve, till I come to make some remarks to be observed in transposing by the following circular Scale:

1. This Scale you will please to observe, is divided into twelve equal parts, or semi-tones, which compleats the octave: but as there is only seven notes in the Gamut, so you begin to count from C, in the natural sharp key, and ends at B; which being within a half, or semi-tone, of the C you began at, is therefore clear, that a sharp key is eleven-twelfths of the whole circle, or eleven semi-tones; whereas beginning at A, the natural flat key, and ending at G, being a whole tone, or two semi-tones from A, where you began, it is evident that the flat key is but ten-twelfths of the whole circle or octave, or ten semi-tones, and consequently is one semi-tone less than the sharp key.

2. The seven letters round the extreme part of the outer plate, are the seven notes placed in their regular order, with respect to distance one from another; where you will observe, that F and C being each only half a tone from their preceding ones E and B, they therefore stand but half the distance from those notes, which any of the rest does from each other.

3. C being the note which governs the sharp key, and A that of the flat one, for the more readily casting our eye upon either, they are distinguished, in those made of cards, by a fleur-de-luce under each of them; but could not be done in brass, on account of the smallness of the size.

4. The

4. The upper circle of windows, which are placed exactly under the seven letters, transpose by sharps in either key, and the lower circle of windows by flats; and, because, if the letters were to appear in both upper and lower windows at the same time, it would confound one with the other; it is therefore so contrived, that whilst those in the upper circle are open, the lower ones are shut; and whilst the lower ones are open, the upper ones are shut.

5. When you want to transpose any piece of Music from one key to another, you must first find whether the piece you want to transpose, is in a sharp key or a flat one; for as I have before observed, you cannot transpose from a sharp key to a flat one, nor from a flat key to a sharp one. To discover, therefore, what key it is in, observe on what note your piece ends: suppose, for instance, it ends in B, then count from B, at the beginning of your piece, how many semi-tones there are from it to the third above it, which is D, and which you will find a sharp upon; therefore from B natural to D sharp, being four semi-tones, it is in a sharp key, and must, therefore, be transposed into a sharp one. But if at the beginning of your piece, you find a flat upon B, and the third above it, viz. D is likewise flated, then it is in a flat key; the third above it consisting only of three semi-tones, and consequently must be transposed into a flat key.—Or it may more readily be discovered in this manner: If your key-note is only a semi-tone above the next note below it, then it is a sharp key, because it comes within half a tone of the octave, and consequently consists of eleven semi-tones.—But if it is a whole tone above the note below it, then it wants two semi-tones of an octave, and therefore must be a flat key, having but ten semi-tones in it.—For instance. If your key-note is D, then look in the beginning of your piece what distance it is

from

from the note below it, which is C. If you find both natural, namely, C and D, then it is a flat key, being a full tone distant one from the other: but if you have a flat upon D, your key-note, then it is only half a tone above C, and therefore the key is a sharp one.

6. If there are any accidental sharps or flats, or a natural, in the piece you transpose from, you must remember after you have transposed it, and placed your flats or sharps, if there are any belonging to the key, at the beginning, to put one or other of those characters to that note which represents the note in the original to which you found such prefixed, so as to preserve the same distance of tone between that and the next notes above and below it. For instance: If you were to transpose from the sharp key of F, which has B flat, into the sharp key of G, with F sharp, and should find, in the course of the piece, a natural placed before B; then that B will be but half a tone distant from the next note above it, viz. C, and a full tone from A, the note below it; consequently C being the note in the piece transposed, which represents B in the original, you must place a sharp before C, which will also make it only half a tone from D, the next note above it, and a full tone from B, the next note below, and the same is to be observed in all other similar cases; using one or other of those characters, according as the distance of tone to be observed requires.

7. Under C, you will observe there are three windows, the smallest of which, nearest the centre, shews you at one view, how many sharps or flats, belong to the key you have transposed into, whilst the particular notes so sharped or flatted, will appear in the upper or lower circle of windows, viz. in the upper ones, if transposed by sharps, and in the under ones if by flats.—The figures and characters which appear in the afore-mentioned little windows, will likewise
be

be found very useful in the following case. As it frequently happens that a person plays, or stops better in one key than another, and the piece before him is in one of those which he does not stop well.— For instance: it is in the sharp key of E, which has four sharps, or the sharp key of D flat, which has five flats, and he wants it transposed into a key which has only two sharps or two flats, but does not know the key-notes to which such flats or sharps belong.

RULE. Turn the Scale round with the key, till you see the number of sharps or flats you want appear in the small window, and the letter which then stands under C, in the upper or lower circle of windows, will be the key-note. So D is the key-note which has two sharps, and B flat, that which has two flats; and so of all the others.

But perhaps you will say, these instructions serve only in a sharp key, whereas the piece you want to transpose is in a flat one, and consequently you want to know what is the key-note which has two sharps or two flats in a flat key.

The same rule holds good in either, for whatever note appears under C, which regulates all the sharp thirds, there is some other note at the same time stands under A, the regulating note of the flat third, which has the same flats or sharps. So that whether it be a sharp or flat key you want to transpose into, you have only to turn it round till you see the number of flats or sharps you want, and the note or letter under C, will be your key-note in a sharp key, and the letter which stands under A your key-note if in a flat one.

N. B. Some of the scales made in metal, turn round by a key, and others by your hand, but those in cards by a button.—I come now to shew

How

How to transpose by the Scale, from any one sharp key to another.

If your key-note is natural, which you will perceive by looking at the beginning of your piece, and you want to transpose it to any other natural note, higher or lower, except F.

RULE. With your key, or button, turn round the inner plate to the left, the same as you wind up a watch, till the note or letter which you want to have it in, appears in the upper circle of windows exactly under the C, which stands at the extreme part of the outer plate, and the little window below, next the centre, will shew you, at one view, the number of sharps which belongs to that key; and looking round the said upper circle of windows, you will see what particular notes are sharped. For instance,

If your piece is in D, and you want to transpose it a full tone higher, which will be E, then turn your key round, as directed above, till E appears in the upper windows under C, and in the little window below, you will see four sharps, which, by looking round, you will find to be F, G, C and D; and so the same with all the other natural notes except F, which being one of the natural semi-tones, you are to set under C, as the others, but in the lower circle of windows.

But if you want to transpose by half-tones, observe the following instructions. For instance. Your piece is in the natural key of C, and you want it half a tone higher, you must then, instead of C sharp, take D flat for your key-note, which is the same thing, and setting it under C, as before, you will observe in the little window five flats, which is D, E, G, A, and B. The same is to be observed with all the other half-tones, as no note sharp can be made a key-note in a sharp key.

N. B. Every natural note in a sharp key may be transposed a half or semi-tone higher or lower, except F,

F, which can neither be transposed into F sharp nor G flat; as you will perceive, by no figure with a flat or sharp appearing in the little window.

The reason why you set the note you want to transpose into under C, is this: That C being the natural sharp key, of course it governs all the sharp keys; and A being the natural flat key, regulates all the flat ones.

How to transpose from any one flat Key to another.

In transposing from one flat key to another, even where the key-note is natural, and you want to have it a full tone higher or lower, you will sometimes have it in the upper windows by sharps, and sometimes in the lower ones by flats: and also in transposing by half-tones, sometimes the natural key-note of the piece you transpose from is made sharp, for the key-note you want to transpose into, and sometimes you must take the note above it, flat. For instance,

If the piece you transpose from is in G natural, and you want it half a tone higher, then you set G sharp under A, it being the natural flat key, and consequently governs all the rest, and in the little window you see five sharps, which are G, A, C, D and F.

But if the key-note of the piece you transpose from is A, and you want it half a tone higher, you cannot here make A sharp your key-note, but must take B flat in the lower windows, and you will then see in the little window five flats, viz. B, D, E, G and A. And as in the sharp key, you cannot transpose either into F sharp or G flat, so in the flat key, neither D sharp nor E flat, can be made a key-note. For the easiest and best method, therefore, and which will hold good in both sharp and flat keys, take this

General Rule. When you have turned your scale round till the letter or note you want appears in the upper row of windows under C, if in a sharp key,

or under A if in a flat one, then observe if any figure and character appears in the little window under C next the centre; if there is, then your piece is already transposed; but if there does not, then turn it a little farther to the left, till the same letter, if your key-note is natural, appears in the lower circle of windows; or if your key-note was sharp, till you see the next note above it flatted; then in the little window you will see the number of flats belonging to that key, except the F sharp and G flat in the sharp key, and D sharp and E flat in a flat one; which will not transpose as before observed, and which will perceive by nothing appearing in the little window under C next the centre.

Having asserted that no note sharp'd can be made a key-note in a sharp key, I think it necessary in this place, to give you a plain reason for it, which is this:

Take any note sharp, and set it as directed under C in your scale, and you will find the same note or letter natural under B, and some other note or letter wanting in the scale; therefore as two notes, or letters of the same name, cannot possibly happen in the scale of any key, it, therefore, is clearly evident, that a sharp note cannot be made a key-note in a sharp key.

There are, however, some people, who affect a superlative degree of knowledge in this science, will tell you, that every note sharp'd may, by the use of extreme sharps, be made a key-note. I have myself met with one or two of those Gentlemen; but when I pressed them to demonstrate it to me, they had nothing to say in support of their assertion, but that Mr. Scarlotte, and another more modern master, whose name I have now forgot, had each of them given an instance or two of it in their compositions.

But

But with all due respect to Mr. Scarlotte's, and the other Gentleman's professional merits, I must beg leave to differ from them in this point; for having once taken up an opinion, which, at the time being, I conceived to be grounded on just and unerring principles; I cannot, in spite of reason and common sense, implicitly give it up in compliment to any person whatever, let their abilities be ever so highly rated; without being first convinced of my error, by arguments more satisfactory than any which the disciples of Mr. Scarlotte, that I have yet met with, have been able to advance.

I grant, that in a nice division of the finger-board of a violin or violincello, there is a little difference between a sharp to any one note, and the flat to the next note above it; but this, I believe, is a mere distinction in theory, without any difference in the practice, even amongst our first performers: but allowing they could make that difference in stopping, which they would have us to believe they do, what advantage is gained by it? None; for if it is not perceptible to the ear, then the effects is lost, or may more properly be said never existed. If it is perceptible, the effect can only be pleasing in a solo part; for, in a full band, where the violins and violoncellos are stopping a sharp or flat true, the organ, harpsicord, and all wind instruments, at the same time, are varying a little from the true note, they having but one way to express both; I say, in this case, it spoils, rather than increases the harmony. I come next to shew

The Principles on which the foregoing Scale is constructed.

Transposition, as I have before observed, being no more than to preserve the distance of tone between one note and another, the same as in the natural scales of C and A, according to which it belongs.

So to transpose any piece into a sharp key, you are only to begin at C, and write all the seven notes or letters, down in their regular order ; observing always to place the two natural half tones of F and C but half the distance from their preceding notes, as any of the rest stands one from another ; and below C, write the letter or note you want your piece transposed into, and the other six letters in their regular order, respect being had to the distance of the natural half tones, as before observed.

For example, you want to transpose a piece into the sharp key of D, or, in other words, into D with a sharp third.

You therefore write down the natural key of C thus :

C D E F G A B

And underneath it,

D E F^{*} G A B C^{*}

Here you will observe, that the distance of tone between C and D in the natural scale, and D and E, the key you want to transpose into, being equal, no sharp or flat is necessary ; but the distance between D and E, in the upper line, being a full tone ; and between E and F, in the under line, but one half or semi-tone, you must therefore put a sharp upon F, as you see, which moves it half a tone further forward, and then it will stand under E.— Again, between E and F, in the upper line, is half a tone ; and between F sharp and G is likewise half a tone ; so that there is no alteration there. The rest of the notes all correspond in distance of tone, till you come to C in the lower line, which, being but half a tone distant from B, must therefore be sharp'd

sharp'd to place it under B in the upper line, and it will then stand thus :

C	D	E	F	G	A	B
D	E	F [*]	G	A	B	C [*]

I shall next give you a specimen of transposing into a sharp key by flats : For instance, into F. First write down the natural scale as before—Thus :

C	D	E	F	G	A	B
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And beginning with your F, thus :

F	G	A	B ^b	C	D	E
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Here you may observe, that the letters of the upper and lower line exactly correspond, so far as E in the former and A in the latter ; but from E to F in the upper line, being only half a tone, and between A and B in the under one a whole tone, you therefore put a flat upon B, which brings it half a tone backwards, viz. under F, which before stood between F and G ; and it will then stand in this manner :

C	D	E	F	G	A	B
F	G	A	B ^b	C	D	E

In the same manner you transpose into a flat key, only instead of beginning in the upper line with C, you begin with A, that being the natural flat key note ; and they will stand thus :

A	B	C	D	E	F	G
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To elucidate this more fully, write down the sharp key in its natural order, in small printed capitals, at an equal distance one letter from another, (which, to be very exact, you may measure with a pair of compasses) : Suppose an inch, except between

tween E and F, which being only half a tone, must stand but half an inch one from the other.

Take then a piece of paper the length of that scale, which will be six inches, and divide it in the same manner ; and cut little square holes in it, the same distance one from another, as the letters are ; so that when you cover them with it, they may appear through the holes. Upon another piece of paper, divided into eleven half inches, begin with the note you want to make your key note in a sharp third—For instance B, and write down all the tones and semi-tones thus,

B C ^{*}C D ^{*}D E F ^{*}F G ^{*}G A ^{*}A

And thus,

^bB ^bB C ^bD ^bD E ^bE F ^bG ^bG A A

Then, by covering the uppermost of these two lines, if transposed by sharps ; or, the under one, if by flats, the notes sharp'd or flated, in order to correspond in distance of tone one from another, with the natural scale, will appear ; whilst those of the same name, which are natural, will be covered :—And by the same method is the flat key to be proved, respect being always had to the order in which it stands, and the holes, of course, made to correspond with it.

These are the simple principles on which the foregoing scale is constructed ; only I thought it might be more easily conceived in length than in a circle.

Let us now examine the propriety, or rather impropriety, of making any note sharp'd, the key note in a sharp key, by the foregoing rule. For instance, let D^{*} be the key note ; then the natural key stand thus :

C D E F G A B

Under which we place

^{*}D ^{*}E ^{**}F ^{*}G ^{*}A ^{*}B ^{**}C
B

Now

Now from C to D in the natural scale, is two semi-tones ; and from D sharp to E, in the under line, is but one.

What then must be done in this case, to make it equal to the distance between C and D in the natural scale ; for E cannot be sharp'd, being only half a tone from F ?—Oh, never mind that (say those confounders of system and order) put a sharp upon E.—Very well. Now, between D and E in the natural scale, is likewise two semi-tones ; and between E sharp and F natural is nothing, they being one and the same thing.—Sharp F (say they) but this will still make it but half a tone—Why then (they reply) double sharp it. I therefore put two sharps upon F, which moves it to the place of G natural. From E to F in the natural scale is a semi-tone ; and from F double sharp (which then possesses the place of G) to G sharp, is likewise a semi-tone, wherefore I put a sharp upon G. Between F and G in the natural scale is two semi-tones ; and between G sharp and A, but one ; I must therefore sharp A. Between G and A in the natural scale is also two semi-tones, and between A sharp and B in the under line, but one ; I must therefore sharp B, which moves it to the place of C, there being but half a tone between B and C, the same as between E and F. And lastly, between A and B is a full tone, and between B sharp, and C, nothing. Why then, according to their method, I must double sharp C, and the whole process is finished.

Now you will observe, that by this method (if method it can be called) the notes only retain their names, whilst they change their places and effect ; which will appear by placing them in the true order in which they will then in reality stand, viz.

Natural

Natural Scale,
 C D E F G A B
 Transposed,
 *D F G *G *A C D

And this you will see is the real order in which they will stand, by setting D sharp under C in your scale.

Here you see F possesses the place of E, and C the place of B ; so that E and B are quite struck out of the scale, F being equal to E sharp, and C to B sharp. How they will reconcile these absurdities to any established rule or principle, none but people equally absurd with themselves can determine. But to be consistent, their reason must be in a piece with their practice, and which I suppose would run thus : "As E and B here are wanting, they are supplied by an extra D and G, there being two of each in this scale, which still make up the number of seven notes."

Indeed the whole is such a rhapsody of nonsense as scarce deserves an answer, were it not to expose the ignorance and fallacy of such doctrine ; for I boldly aver, that no note sharp'd can be made a key-note in a sharp key, without inverting the whole order of our present diatonic scale, and turning it topsy-turvy. They must therefore entirely new model it, before it will admit of this kind of transposition.

F I N I S.